WHAT IS CLAIMED IS:

1. A communication system for sending a sequence of symbols on a communication link, said communication system comprising a transmitter for placing information indicative of said sequence of symbols on said communication link and a receiver for receiving said information placed on said communication link by said transmitter, said transmitter comprising

a clock for defining successive frames, each said frame comprising M time intervals, where M is an integer greater than 1;

a modulator for modulating each of M carrier signals with a signal related to the value of one of said symbols thereby generating a modulated carrier signal corresponding to each of said carrier signals that is to be modulated and for generating a sum signal comprising a sum of said modulated carrier signals; and

an output circuit for transmitting said sum signal on said communication link, wherein said carrier signals comprise first and second carriers, said first carrier having a different bandwidth than said second carrier.

2. The communication system of Claim 1 wherein said modulator comprises a tree-structured array of filter banks having M leaf nodes, each of said values related to said symbols forming an input to a corresponding one of said leaf nodes, each of said non-leaf nodes comprising one of said filter banks.

3. The communication system of Claim 1 wherein said receiver comprises

an input circuit for receiving and storing M time-domain samples transmitted on said communication link; and

a decoder for recovering said M symbol values, said decoder comprising a tree-structured array of sub-band filter banks, said received M time-domain samples forming the input of the root node of said tree-structured array and said M symbol values being generated by the leaf nodes of said tree-structured array, each said sub-band filter bank comprising a plurality of FIR

5   filters having a common input for receiving an input time-domain signal, each said filter generating an output signal representing a symbol value in a corresponding frequency band.